7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

procurement of equipment and the erection of structures to house this equipment. In the past these functions have been carried out by two different sections of the Ministry of Communications and Public Works with little or no coordination.

V. Public Health

Considerable progress in public health has undoubtedly been made over recent decades. The number of hospitals, dispensaries and doctors has greatly increased, and there have been no epidemics of pestilential diseases in recent years. Yet infant mortality is still extremely high—perhaps as much as 250 per 1,000 births; and there is still a very high incidence of such endemic diseases as trachoma, hookworm, bilharzia, malaria and the dysenteries. Many of the prevailing diseases are the by-product of polluted water, and unsanitary, congested living conditions which in turn are traceable largely to poverty and ignorance. Thus an increase in production and standards of living brought about through the general development program will be an important complement to a direct attack upon the health problem through expansion and more effective organization of governmental health services.

The main attack will have to focus on those diseases which sap the vitality and undermine the productivity of the people. In some rural areas, for example, virtually the entire population is at certain times stricken with malaria. Malaria is said to cause 50,000 deaths every year, as well as much sickness and disability which results in great loss for the country. In the provinces of Amara, Muntafiq and Kut the incidence of bilharzia or schistosomiasis, another debilitating disease, is particularly high. The dysenteries and other intestinal ailments are also a prominent cause of low vitality. In 1948 no less than 5,656,474 visits to medical institutions for treatment were reported, and 1,291,225 cases of infectious diseases were treated. Of these, 603,698 were malaria, and 524,740 trachoma. These statistics are of twofold significance. On the one hand, they illustrate the great expansion which has taken place in facilities for treatment of disease. On the other hand, they indicate clearly the relative inadequacy of efforts to prevent disease. It is

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

164 167 also frequent causes for hospitalization. In 1949 there were 5,876,336 visits to health institutions for treatment.

Public Health Budget

744 662 164 In 1951-52, ID 2,089,180 (7.6 percent of the total budget) were allocated to health services, as compared to ID 187,672 in 1931. Because of the prevalence of endemic diseases and the constant danger of epidemics, it would not be unreasonable to spend 10 percent of the total budget on health services.

759 Salaries for personnel in the medical service appear to be low in relation to the cost of living, although they are not low compared to other civil service salaries. The basic salaries, exclusive of cost-of-living allowances, range from ID 5.15 a month for a dresser, to ID 25 for a doctor and ID 80 for a director-general.

Current Health Conditions

165 In spite of the undeniable progress in health conditions, there is need for further improvement. Definitive data are lacking on total birth and death rates, but some figures are available on the infant mortality rate, which is probably the best index of the social circumstances of an area. For Baghdad, the recorded rate in 1949 was 128 deaths per thousand births. Iraqi doctors who have worked in different parts of the country consider the rate to be about 250 per thousand, on the average, compared with about 34 deaths per thousand live births in highly developed countries.

164 Among the people as a whole, malaria seems to be the chief killer, especially in country districts. In the main cities the leading causes of deaths were intestinal diseases, tuberculosis and respiratory diseases. These diseases and trachoma seriously affect the ability of men and women to work efficiently and are among the major causes of low productivity of labor in Iraq. For example, candidates for the police service are frequently rejected because of defective eyesight and what is characterized as "poor physique" associated with chronic malaria, schistosomiasis, etc. About 20 percent of the young men liable for military service are found to be unfit.

Heart trouble, cancer and other organic disturbances are far outnumbered by diseases which are essentially social in origin. Most of them can be traced to lack of hygiene, poor sanitation and

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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161 taken, in 1947, gave the total population as 4,799,500; before that there were periodical official estimates as follows:

1930	2,824,000
1935	3,560,000
1943	3,995,000

The present population is probably about 5 million. According to the census, Baghdad has a population of 364,000, Mosul 302,000, Basra 94,000, and Kirkuk 69,000, Hilla being the only other town of over 50,000 inhabitants. Significant figures for density of population could be determined only after defining habitable land and distinguishing rural populations; the accepted density figure for the country as a whole (27·4 per square mile) means little. In the total cultivable area as calculated by an English authority the average density is 102 per square mile, but in many areas the density is much more than this for the rural population alone, and in the Baghdad and Basra districts exceeds 300 and 800 respectively per square mile.

163 *Vital Statistics.* For a number of reasons, which include the
165 inaccessibility of large areas of Iraq and the lack of doctors
164 in the rural districts, vital statistics are not available for the country as a whole. Statistics of possibly fair accuracy are, however, published for the population of some 1,160,000 served by the health centres in the main cities of Baghdad, Basra, and Mosul; the latest, compiled for 1950, show a birth-rate of 27 and a death-rate of 12 per 1,000, with an infant mortality figure of 97 per 1,000 live births. The main causes of death were stated as old age, respiratory diseases other than tuberculosis, malaria, heart diseases, and tuberculosis.

197 *Language.* Arabic is the official and most widely spoken language. The 800,000 odd Kurds speak an Iranian language in various forms. Turkish dialects are spoken in Irbil, Kirkuk, to some extent in Khanaqin and in smaller intervening towns, and Syriac by Christian communities in northern Iraq. Other minority languages, such as Armenian, also occur, while in the Holy Cities of the south (Kerbela and Najaf) Persian is widely spoken.

Religions[1]

642 The constitution declares Islam to be the official religion of the state, but guarantees complete freedom of conscience and worship in conformity with accepted customs subject only to the maintenance of public order and morality, declares the absolute equality of all Iraqis before the law, gives communities

[1] See above, p. 51ff.

63:Simmons et al G-5 (1941-1951) 1954
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of peasants and tribesmen are illiterate. 212
Theoretically, primary education is compulsory for both sexes, but the facilities are 872
inadequate, particularly in the rural areas. Recent estimates indicate that the literacy rate in the country as a whole approximates 10 per cent, in contrast with about 40 per cent in Baghdad and the larger cities. Education is controlled by the government, 871
and public instruction is available at all 658
levels from the primary schools through the professional colleges. There is no university in Iraq, but the incorporation of the present colleges into a national institution, with university status, has been proposed. Separate colleges of medicine, pharmacy, law, science, arts, fine arts, engineering, commerce and teachers' training, as well as various types of vocational schools, are supported by the government. Secondary schools are also maintained by private and mission groups. Government scholarships are provided annually to qualified students for study abroad, usually in Egypt, Great Britain or the United States.

Vital Statistics

Valid vital statistics are almost nonexist- 163
ent, since the registration of births and 165
deaths is admittedly incomplete, even in the principal cities, as Baghdad, Basra and Mosul. The general reluctance of the inhabitants to report births, deaths and other statistical data and the large size of the nomadic and the semimigratory populations are factors contributing to the inaccuracy of the figures available. Within recent years statistics have been compiled by the government health organization in 75 centers under the jurisdiction of medical officers, but they do not reflect conditions throughout the country. In 1950, these health districts covered a population of 1,160,000, distributed in all 14 of the provinces into which Iraq is divided. The birth rate was estimated at 27 per 1,000 population, and the death rate at 12 per 1,000. Competent authorities, however, believe that the over-all birth rate is nearer 40 to 50 per 1,000 popu-

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163 lation, and the death rate, 25 to 35. The
165 discrepancies in reporting are probably less in the case of deaths than of births.

On the basis of the health district populations for 1950, the infant mortality rate was calculated at 98 per 1,000 live births. The death rate of infants under 1 year was 14 per cent of the total deaths, and of children under 5 years, about 23 per cent. Local observers estimate that the mortality in infants under 1 year approximates 300 to 350 per 1,000 live births among most rural and impoverished urban communities, and that it reaches almost 500 per 1,000 live births in children under 5 years of age. Intestinal diseases, undernutrition, respiratory infections and malaria are prominent among the causes of death in infancy and early childhood.

Social Economy

241 Agriculture and the petroleum industry together form the basis of Iraq's economy. Although this region was one of the chief granaries of the world centuries before the Christian Era, the present agricultural resources of the potentially fertile Tigris and Euphrates river basins are only partially developed. About 75 to 80 per cent of the inhabitants are engaged in farming or pastoral pursuits, but progress is retarded by the prevailing forms of land tenure, shortage of labor supply and inefficient methods
311 of cultivation. In 1950, less than one fifth
241 of the arable land, normally estimated at 25 to 30 million acres, was under production. Extensive areas of the alluvial plain are cultivated by means of irrigation, but improper drainage often results in consider-
427 able annual loss of soil fertility. A system
423 of tenancy farming predominates in most sections of the country. The proportion of land-owning peasants is small and largely restricted to the northern provinces. In cen-
[244] tral and southern Iraq many families are migratory cultivators who work on a share-cropping basis for wealthy and, usually, absentee landlords.

241 Cereals, tobacco and cotton are important

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241 tables in season. Citrus fruits flourish in the irrigated areas of Kerbela province and in the Diyala river valley, while grapes, apricots and other fruits grow in various localities. Numerous species of dates are cultivated, especially in the Shatt al Arab and lower Euphrates basins: they represent one of the basic foods of the people.

511 The financial circumstances of most families prohibit the consumption of meat,
233 except at irregular intervals. Sheep and goats are raised in large numbers, both by the settled and the nomadic peoples, and constitute the principal sources of
226 meat. Fish are a valuable food among
231 the peoples living in the river valleys and along the coast. Fowl are kept in the rural
262 villages. Milk is a standard article of diet
334 wherever it is obtainable. The milk of sheep or goats is most widely used, but that of cows, water buffaloes and camels is utilized in many areas. Milk is normally consumed in the form of buttermilk or a soured milk product, known as *leban*. Cheese is also made, but it is rarely as popular as in other Arab countries. Clarified butter and the fats derived from the tail tissues of the local breeds of sheep are important sources of fat among all population groups.

262 The least diversified diets are probably found among the nomadic tribes, who subsist on the products of their herds, supplemented by dates and wheat or barley breads. Camel's milk is employed by the
[234] nomadic Bedouin. The tribal Arabs of the southern marshes depend largely upon the milk of the water buffalo, fish and wild waterfowl, rice and occasional edible rushes.

146 *Measures to raise the standards of nutrition* among the various urban and rural groups are being studied by educational and
165 health authorities. Improper feeding in in-
853 fancy, particularly in the course of weaning, which is often deferred until the second year of life, is a factor contributing to the
146 high mortality among young children. The
657 organization of a national nutrition committee, to function in an advisory capacity to the governmental agencies concerned, and

TICKS AND MITES. NUMEROUS SPECIES OF ticks infest the livestock, including *Rhipicephalus sanguineus, Hyalomma dromedarii* and *Haemaphysalis cinnabarina punctata*. *Ornithodorus tholozani* occurs in many localities, and is the vector in sporadic cases of tick-borne relapsing fever. *O. savignyi* is present in the desert areas. The fowl or blue Persian tick, *Argas persicus*, and the castor bean tick, *Ixodes ricinus*, are widespread.

The itch mite, *Sarcoptes scabiei*, is prevalent, especially in the congested urban communities and rural villages. The grain itch mite, *Pediculoides ventricosus*, is a frequent pest in the grain-growing districts.

SCORPIONS AND SPIDERS. Scorpions are common, particularly in the northern provinces. The most dangerous species are *Buthus australis* and *B. crassicauda*. *B. europaeus* is also present. A few deaths from scorpion stings are reported each year, usually among young children or old people. *Scorpio maurus kruglovi* is sometimes encountered in the plains and *S. maurus townsendi* in the Persian Gulf region. The principal poisonous spider in Iraq is *Lycosa tarantula*.

OTHER ARTHROPODS. *Reduvius tabidus* and *R. annulipes* are found in many areas. The "date beetle," a large aquatic species of the family BELASTOMIDAE, is capable of causing serious bites.

Reptiles. Twenty-six species of snakes have been recorded from Iraq, but only 5 land varieties are venomous. Casualties from snake bites are reported occasionally. A large proportion of the fatalities is probably caused by the Levantine or blunt-nosed viper, *Vipera lebetina lebetina*, which inhabits the northeastern highlands from north of Baghdad to the Turkish and the Iranian frontiers. *V. lebetina euphratica* is also seen in some localities. The horned viper, *Aspis cerastes* (— *Cerastes cornutus*), is native to the alluvial plains, while the carpet viper, *Echis carinatus*, is found in limited areas in Diwaniya province. The hoodless cobra, *Naja morgani*, is widely distributed but apparently is rare. The poison-

ous sea snake, *Enhydrina schistosa*, roams the Persian Gulf and the Shatt al Arab. Although it may be dangerous to fishermen, no fatalities are known to have occurred. 136 752 165

Rodents. *Rattus rattus frugivorus* is the rat most frequently encountered in Iraqi dwellings. *R. rattus alexandrinus* is also indigenous, while *R. norvegicus* is present in Basra, Baghdad and the river towns. *Nesokia buxtoni*, *Dipodillus dasyurus* and *Meriones charion* are reported from different localities. Rats are often captured in Baghdad and Basra and examined for evidences of plague, but otherwise little rodent control work is undertaken, except at the time of plague outbreaks. 136 164

Mollusks.* *Bulinus truncatus* (— *B. contortus*), the intermediate snail host of *Schistosoma haematobium*, is found in numerous foci in central and southern Iraq, where pump or gravity flow irrigation is employed. It inhabits the many small and sluggish irrigation canals and the rice fields, borrow pits, marshes and other suitable collections of water, but is strictly seasonal in appearance, being abundant only in the summer and the fall months, from May or June to November. The snails are widespread in Basra, Muntafiq, Diwaniya and Amarah provinces in the south, but are absent from the Shatt al Arab region south of Basra, where breeding is restricted by the salinity of the water. They are more scattered in distribution in the central provinces and practically nonexistent in the north, aside from localized foci around the marshlands of the Mosul area. *Radix lagotis canaliculata*, a vector of *S. turkestanicum* which causes serious infections among the livestock, is found in the rice fields and the marshes of the southern delta. 136 232

The threat of the spread of *Bulinus truncatus*, and subsequently of schistosomiasis, with the expansion of irrigation creates a problem which is of major public health and economic importance to the country. Small-scale snail-control campaigns have been undertaken in the past in Baghdad, Basra and 136 164 744

* See footnote, page 10.

Diwaniya provinces. In 1949, a co-ordinated control program was introduced by the Iraqi government, and a Bilharzia Section was established within the national health organization. The section initiated a snail survey in the various endemic foci and research on the most effective methods of snail control. It carries on continuous snail destruction work through special units assigned to each of the infected provinces. 136 164 744

Plants. Little precise information is available regarding the prevalence of allergy-producing plants, but numerous weeds, grasses and trees, which have been incriminated in other countries, are present in districts with rainfall adequate to support such vegetation. 137 752

Occasional deaths, primarily among young children, have been traced to the consumption of the raw beans of *Vicia fava*, a prominent food crop throughout this region. The beans are toxic to susceptible individuals in the raw state. Plants of the *Senecio* group grow in sections of the northern highlands. The young green shoots are poisonous and sometimes cause fatalities among the livestock. 137 165 232

Food Sanitation

The government and municipal health authorities are responsible for the enforcement of regulations governing the sanitary quality of foods, meats and milk products, but the degree of enforcement varies in different localities. Health inspectors are charged with the supervision of establishments where foods are prepared or sold, such as foodshops, markets, restaurants and cafés, mineral-water bottling works and date-packing houses. Examinations for the presence of venereal diseases are theoretically required at regular intervals in the case of cooks and barbers, but no tests to detect other infections are carried out. 744

Meat animals are inspected before and after slaughter in the city abattoirs by officers of the government veterinary and health services. All carcasses offered for sale are supposed to bear an official stamp of

illness and death in the rural areas is incomplete and unreliable. An unduly large proportion of the medical personnel is concentrated in Baghdad, Basra, Mosul and other cities, while the inhabitants in many of the more remote districts receive little or no medical attention. Local authorities estimate that, in the case of most diseases, the official reports represent about one tenth of the probable prevalence. The mortality statistics are of questionable value, since the deaths in rural communities are often certified by nonmedical officials, and a considerable percentage are listed as due to unknown causes. Investigations undertaken by the staff of the Royal Hospital and the Royal College of Medicine, the Department of Endemic Diseases and other organizations contribute supplementary information on the nature and the prevalence of specific infections, as malaria and schistosomiasis.

Diseases Spread or Contracted Chiefly Through Intestinal or Urinary Tract

Typhoid and Paratyphoid Fevers. Enteric fevers are endemic: from 559 to 842 cases of typhoid fever and from 97 to 230 cases of paratyphoid fever were reported annually in the 6 years 1944-49. About 70 to 80 per cent of the known cases are classified as typhoid fever. The relative prevalence of paratyphoid A and B infections is uncertain, however, as differential diagnostic tests are seldom attempted, except in the central bacteriologic laboratory in Baghdad. Few large-scale epidemics have been reported since the improvement of the water supplies in the larger cities, but localized outbreaks, caused by contaminated food or water supplies, are numerous. Cases occur throughout the year, with the peak of incidence in the summer months, from July to October. Sporadic cases of paratyphoid C fever have been recorded, some of which have been associated with primary meningeal symptoms.

Dysenteries. Both bacillary and amebic dysentery are widespread. Amebiasis is ap-

164 parently of primary importance in all parts of the country, particularly in the lower delta region. Local authorities estimate that 25 to 35 per cent of the inhabitants in Baghdad harbor cysts of *Endamoeba histolytica*, while in Basra the carrier rate probably approximates 60 to 70 per cent. Liver abscesses are frequently encountered.

The actual distribution of bacillary infections is unknown, since the proportion of cases treated by medical officers is unduly small, and few facilities for confirmatory diagnosis are available. According to the official statistics for 1944 through 1949, from 17,000 to 30,000 cases of amebic dysentery and from 180 to 1,100 cases of bacillary dysentery were reported each year. Correspondingly, an analysis of the cases treated annually in the hospitals and the dispensaries of the Iraq Petroleum Company in the Kirkuk oil field and pipeline areas, in the 4 years 1946-50, shows that from 478 to 1,603 were amebic infections and from 58 to 175 bacillary. The Flexner group predominates among the *Shigella* strains isolated in dysentery cases at the Royal Hospital in Baghdad, but Sonne, Schmitz and Shiga types are also numerous.

136 The abundance of flies and the insanitary
515 habits of the people favor the spread of
164 intestinal infections. Diarrhea and enteritis
165 are major causes of illness and death, especially in early childhood. Giardiasis is common. Outbreaks of food poisoning, undoubtedly caused by various strains of *Salmonella*, are frequent.

164 Cholera. Epidemics of cholera were for-
494 merly recurrent in the border districts and along the trade routes from India and the East. Although some authorities believe that an endemic focus may have existed in the Shatt al Arab region in the past, most epidemics have resulted from the introduction of the disease by way of traffic through the Persian Gulf ports or by overland travel through Iran, often in connection with pilgrimages to Mecca or local Shia shrines.

164 Within recent decades extensive outbreaks, each totaling from 1,500 to 2,500 cases,

milk products, or from contact with infected animals. From 5 to 97 cases were treated annually in government institutions in the 6 years 1944-49. In the examination of 2,548 blood serum specimens sent to the Wassermann laboratory in Baghdad in 1938,[4] positive agglutination with Brucella antigens was obtained in 6 per cent. *Br. melitensis* was isolated from 5 of the 13 samples from which bacteriologic cultures were made.

Diseases Spread Chiefly Through the Respiratory Tract

Tuberculosis. Tuberculosis is among the most serious diseases in Iraq. In 1944-49, from 3,400 to 6,800 cases of pulmonary and from 1,400 to 3,100 of nonpulmonary tuberculosis were recorded annually. Such figures are of little value in assessing the problem, however, due to inadequate reporting and the shortage of diagnostic and treatment facilities. Local authorities estimate that the prevalence of latent or active infections approximates at least 25 to 30 per cent in many villages in the vicinity of Kirkuk and Basra, and undoubtedly in other areas. Widespread undernutrition and low standards of living, associated with overcrowding and ignorance of the basic principles of hygiene, are factors contributing to the spread of the disease. The death rates are known to be high, but little precise information is available. It is believed that a considerable number of tuberculosis deaths are erroneously attributed to pneumonia and other respiratory infections. Moreover, the inhabitants are often reluctant to admit the presence of tuberculosis in the family due to the stigma customarily attached to the disease. In the decade 1941-50, an average of 760 cases were treated in government hospitals each year, with a fatality rate of about 25 per cent. The maximum number of cases occurred in the group from 16 to 30 years of age.

All types of tuberculosis are encountered. Involvement of the bones or the glands accounts for a large proportion of the non-

164 corded; in 1940-42, a peak of 2,098 cases was noted in 1941. Over 1,460 cases were treated by the medical officers in 1946 and 2,026 in 1948, with a decrease to 736 cases in 1949. In the intervening years the recorded prevalence ranged from 18 to 700 [165] cases. The fatality rates have varied in different outbreaks from 5 to 40 per cent.

751 361 Vaccination against smallpox is required theoretically, but enforcement is difficult in the more remote villages, and particularly among the transitory laborers and nomadic tribes. In some sections, as in the date-growing areas, mass vaccination campaigns are carried on during the date harvest season, when people flock to the groves and the packing sheds in search of work. At the time of an epidemic, vaccination is compulsory among all the affected populations.

164 Diphtheria. Diphtheria is endemic, and localized outbreaks are observed from time to time. In the absence of Schick test surveys, however, little is known regarding the extent of infection in the general population. In the 6 years 1944-49, the recorded incidence rose from 210 cases in 1944 to 903 in 1948 and 612 in 1949—an apparent increase which is attributed by the local authorities to improved facilities for diagnosis.

751 164 Immunization against diphtheria is provided in many of the schools in the larger cities and in certain of the child health centers.

164 165 Meningitis. Outbreaks of meningococcus meningitis are sporadic, usually occurring during the winter months. In the 12-year period 1939-50, from 112 to 489 cases were recorded each year, while the fatality rates ranged from 8 to 35 per cent.

164 Other Infections. The pneumonias are prevalent, and are major causes of death in all age groups. Outbreaks of influenza are recurrent. Measles, whooping cough, chickenpox and mumps are endemic, and often epidemic. The cases of whooping cough are typically severe, and the mortality among the undernourished children is normally high.

Occasional cases of scarlet fever are en-

64: Shwadran S-4 (no date) 1955 MI Middle East
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creased. Of all the Middle Eastern countries, Iraq has all the necessary requisites for a sound and rapid economic development, especially in the agricultural sector. It has a very considerable quantity of land ready for immediate cultivation, so defined by the most conservative standards, and with modern methods very great stretches now defined as uncultivable could be improved and brought into the cultivable class; it has an abundance of water for irrigation as well as for power, and it has at its disposal enormous quantities of cheap fuel both in petroleum and natural gas.

What, then, have been the economic, educational, health and social conditions of the country? As regards the size and growth of the population, even today, more than thirty years since the creation of the Kingdom of Iraq, it would be very difficult to state categorically the percentage increase of the population. The accuracy of the figure advanced by the October 1947 census has been questioned by the International Bank Mission.[7]

Despite substantial strides in public health—an increased number of hospitals, dispensaries and doctors—during the first thirty years of the existence of the Kingdom, the Bank Mission reported in 1951 that the infant mortality rate was very high, "perhaps as much as 250 per 1,000 births," and that there was a very high incidence of such endemic diseases as trachoma, hookworm, bilharzia, malaria and dysentery. Malaria was reported to cause 50,000 deaths every year. In 1948 no less than 6,657,474 visits to medical institutions for treatment were reported, and 1,291,225 cases of infectious diseases were treated. Of these, 603,698 were malaria and 524,740 trachoma.[8] In 1944 the total number of doctors in the country was 528; in 1951 it was reported that there was one doctor to every 7,000 in the population, which would make a total of about 915 doctors, but a large percentage of them were concentrated in Bagdad.[9]

There can be no doubt that educationally the country progressed considerably from the stage in which it was in 1921, but all in all the sum total was not very impressive; the rate of

[7] International Bank, *Iraq Mission Report*, 128.

[8] *Ibid.*, 49.

[9] *Ibid.*, 53; Hashim Al Witry, *Health Services in Iraq* (1944), 8. In 1945 there were, according to a British report, 569 doctors registered in Iraq. Since 308 were in Bagdad, this made approximately one doctor for every 15,400 in the population in the provinces, and one doctor to every 2,700 in Bagdad. Great Britain, Overseas Economic Survey, *Iraq* (1949), 30-31.